IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICANT:	**Paprotna**		
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GROUP ART UNIT:	**3673**		
EXAMINER:	**Patel, Vishal A.**		
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FOR: **Seal Usable Between Thermally Movable Components**

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DATE: June 29, 2007

REVISED APPEAL BRIEF

Sir:

The Notification of Appeal was filed on February 21, 2007. A Notice of Non-Compliant Appeal Brief was mailed June 6, 2007.

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I. REAL PARTY IN INTEREST

The real party in interest in connection with the above identified patent application is Siemens Power Generation, Inc., the assignee of record.

II. RELATED APPEALS AND INTERFERENCES

There exist no related appeals or interferences in connection with the above-identified patent application.

III. STATUS OF CLAIMS

Claims 1, 3, 4 and 6-20 are pending in the patent application, and claims 1, 3, 4 and 6-20 are rejected. Claims 2 and 5 have been canceled without prejudice, and claims 8-20 have been withdrawn. Claims 1, 3, 4, 6 and 7 are being appealed.

IV. STATUS OF AMENDMENTS

No amendments were filed after issuance of the final office action dated June 29, 2006. All previous amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 is directed to a seal (10) usable between two thermally movable components (12, 14), comprising: a body (16) for sealing space between adjacent components (12, 14) to prevent a fluid from passing through the space; wherein the body (16) has a cross-section that has a first side (20), a second side (22) generally opposite to the first side (20), a first end (24), and a second end (26) generally opposite to the first end (24), wherein the first and second sides (20, 22) have lengths longer than lengths of the first and second ends (24, 26); wherein the first end (24) includes at least one first tooth (36) extending from a region (42) on the first end (24) proximate to an intersection (44) between the first end (24) and the first side (20) and extending toward the second side (22) of the body (16) and at least one second tooth (36) extending from a region (42) on the first end (24) proximate to an intersection (44) between the first end (24) and the second side (22) and extending toward the first side (20) of the body (16). The seal is usable between components of a turbine engine. These components are shown in Figures 6-8 specifically and described in the detailed description and particularly at page 5, line 27 – page 6, line 19.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are requested to be reviewed on appeal. In particular, first, the Examiner rejected claim 1 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 4,524,981 to *Hertz, Jr.* Second, the Examiner rejected claims 1-3 and 5-7 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,975,844 to *Milazar*. Third, the Examiner rejected claims 3 and 4 under 35 U.S.C. §103(a)as being unpatentable over *Hertz, Jr.* and rejected claim 4 under 35 U.S.C. §103(a) as being unpatentable over *Milazar*.

VII. ARGUMENTS

I. REJECTION OF CLAIM 1 UNDER 35 U.S.C. §102(b)

The Examiner rejected claim 1 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 4,524,981 to *Hertz, Jr.* The Examiner stated that *Hertz, Jr.* discloses a seal having a body with a cross-section having a first side, a second side, a first end and a second end, wherein the first and second sides have lengths longer than lengths of the first and second ends. The Examiner also stated that *Hertz, Jr.* discloses a first end having a tooth extending from a region on the first end proximate to an intersection between the first end and the first side and extending toward the second side and the first end having a second tooth extending from a region on the first end proximate to an intersection between the first and the second side and extending toward the first side of the body. The Examiner also stated that *Hertz, Jr.* discloses other claimed elements as well.

Hertz, Jr. discloses annular seal with a V-cut, as set forth appropriately in the title of the patent. As shown in Figure 1, *Hertz, Jr.* discloses an annular seal (20) for a wellhead valve (10). The annular seal (20) includes grooves (34a & b) in the inner seal face (22) and the outer seal face (24). The grooves (34a & b) enable the seal (20) to compressed when subjected to a compression force.

In sharp contrast, the claimed invention in claim 1 is directed, in relevant part, to a "first end [that] includes at least one first tooth extending from a region on the first end proximate to an intersection between the first end and the first side and extending toward the second side of the body and at least one second tooth extending from a region on the first end

proximate to an intersection between the first end and the second side and extending toward the first side of the body." Thus, the claimed seal includes at least one tooth that extends from a first end. In contrast, the annular seal of *Hertz, Jr.* discloses an annular seal with grooves cut into inner and outer sealing surfaces. *Hertz, Jr.* does not disclose a seal with teeth extending from an end of the seal. Thus, *Hertz, Jr.* does not anticipate claim 1, and the Examiner is respectfully requested to withdraw the rejection.

II. REJECTION OF CLAIMS 1, 3 AND 6-7 UNDER 35 U.S.C. §102(b)

The Examiner rejected claims 1-3 and 5-7 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,975,844 to *Milazar*. The Examiner stated that *Milazar* discloses a seal usable between two thermally movable components. The Examiner stated that *Milazar* further discloses a seal comprising a body having a longitudinal axis and the body having a cross-section orthogonal to the longitudinal axis that has a first side, a second side generally opposite to the first side, a first end, and a second end generally opposite to the first end. The Examiner also stated that *Milazar* discloses that the first end of the body is formed from a compliant material.

Claim 1 states in relevant part "wherein the first and second sides have lengths longer than lengths of the first and second ends . . . ." The amendment places the teeth on a first end that is shorter than the first and second sides. In contrast, *Milazar* discloses a plurality of teeth extending from a first side of a seal body, not teeth extending from a first end of a seal body that is shorter than the first and second sides of the seal body, as claimed in claim 1. In

addition, *Milazar* does not disclose curved teeth, as claimed in claim 7. Therefore, for at least these reasons, claim 1, and those claims depending therefrom, are not anticipated by *Milazar*, and the Examiner is respectfully requested to withdraw the rejection.

III. REJECTION OF CLAIMS 3 AND 4 UNDER 35 U.S.C. §103

The Examiner rejected claims 3 and 4 under 35 U.S.C. §103(a)as being unpatentable over *Hertz, Jr.* and rejected claim 4 under 35 U.S.C. §103(a) as being unpatentable over *Milazar*. Claims 3 and 4 depend from claim 1, which is allowable for the reasons previously set forth. Thus, the Examiner is respectfully requested to withdraw the rejection.

VIII. CLAIMS APPENDIX

1. A seal usable between two thermally movable components, comprising:

a body for sealing space between adjacent components to prevent a fluid from passing through the space;

wherein the body has a cross-section that has a first side, a second side generally opposite to the first side, a first end, and a second end generally opposite to the first end, wherein the first and second sides have lengths longer than lengths of the first and second ends;

wherein the first end includes at least one first tooth extending from a region on the first end proximate to an intersection between the first end and the first side and extending toward the second side of the body and at least one second tooth extending from a region on the first end proximate to an intersection between the first end and the second side and extending toward the first side of the body.

2. (Canceled)

3. The seal of claim 1, wherein the at least one first tooth is at an angle of between about 30 degrees and about 60 degrees relative to an outer surface of the first end and the at least one second tooth is at an angle of between about 30 degrees and about 60 degrees relative to the outer surface of the first end.

4. The seal of claim 3, wherein the at least one first tooth is at an angle of about 45 degrees and the at least one second tooth is at an angle of about 45 degrees.

5. (Canceled)

6. The seal of claim 1, wherein the at least one first tooth extending from the region on the first end proximate to the intersection between the first end and the first side comprise three teeth, and the at least one second tooth extending from the region on the first end proximate to the intersection between the first end and the second side comprise three teeth.

7. The seal of claim 1, wherein the teeth are curved.

8. (Withdrawn) The seal of claim 1, wherein the compliant material is selected from the group consisting of a feltmetal, a honeycomb, and a brush seal.

9. (Withdrawn) The seal of claim 1, wherein the second end is formed from a compliant material configured to absorb thermal expansion of the two thermally movable components.

10. (Withdrawn) The seal of claim 9, wherein the second end includes at least one tooth extending from the second end.

11. (Withdrawn) The seal of claim 10, wherein the at least one tooth is at an angle of between about 30 degrees and about 60 degrees relative to an outer surface of the first end.

12. (Withdrawn) The seal of claim 11, wherein the at least one tooth is at an angle of about 45 degrees.

13. (Withdrawn) The seal of claim 9, wherein at least one tooth extends from a region proximate to an intersection between the first end and the first side and at least one tooth extends from a region proximate to an intersection between the first end and the second side.

14. (Withdrawn) The seal of claim 13, wherein the at least one tooth extending from the region proximate to an intersection between the first end and the first side comprise three teeth and the at least one tooth extending from the region proximate to an intersection between the first end and the second side comprise three teeth.

15. (Withdrawn) The seal of claim 13, wherein the teeth are curved.

16. (Withdrawn) A seal usable between two thermally movable components, comprising:

a body having a longitudinal axis for sealing space between adjacent components to prevent a fluid from passing through the space;

wherein the body has a cross-section generally orthogonal to the longitudinal axis that has a first side, a second side generally opposite to the first side, a first end, and a second end generally opposite to the first end;

wherein the first end is formed from a compliant material configured to absorb thermal expansion of the two thermally movable components, and the first end includes at least one tooth extending from the first end;

wherein the second end is formed from a compliant material configured to absorb thermal expansion of the two thermally movable components.

17. (Withdrawn) The seal of claim 16, wherein the first end includes at least one tooth extending from the first end, and the second end includes at least one tooth extending from the second end.

18. (Withdrawn) The seal of claim 17, wherein the at least one tooth of the first end is at an angle of between about 30 degrees and about 60 degrees relative to an outer

surface of the first end, and the at least one tooth of the second end is at an angle of between about 30 degrees and about 60 degrees relative to an outer surface of the second end.

19. (Withdrawn) The seal of claim 17, wherein at least one tooth extends from a region proximate to an intersection between the first end and the first side and at least one tooth extends from a region proximate to an intersection between the first end and the second side.

20. (Withdrawn) The seal of claim 16, wherein the compliant material is selected from the group consisting of a feltmetal, a honeycomb, and a brush seal.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.

CONCLUSION

For at least the reasons given above, claims 1, 3, 4, 6 and 7 define patentable subject matter and are thus allowable. The Applicant requests withdrawal of the rejections and allowance of the claims.

Respectfully submitted,

Michael K. Dixon
Reg. No. 46,665
AKERMAN SENTERFITT
222 Lakeview Avenue
Suite 400
West Palm Beach, Florida 33401-6183
(561) 653-5000

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